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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,095	07/08/2003	Seiichi Yamamoto	FSF-031401	8356
37398	7590	05/14/2007		
TAIYO CORPORATION 401 HOLLAND LANE #407 ALEXANDRIA, VA 22314			EXAMINER CHEA, THORL	
			ART UNIT 1752	PAPER NUMBER
			MAIL DATE 05/14/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/614,095

Applicant(s)

YAMAMOTO, SEIICHI

Examiner

Thorl Chea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This office action is responsive to the communication on April 20, 2007; claims 1-11, 12-20 are pending in this instant application; claims 13-20 are withdrawn as being drawn to non-elected invention; claims 11 has been canceled.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 20, 2007 has been entered.
3. Applicant's arguments with respect to claims 1-10, -12 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-10, 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claiming of "90 % or more of a total iridium amount contained in the core portion" and "at least 50 % of the other metal is contained in the shell portion of the grain" in claim 1 and "90 % or more of a total iridium amount contained in the core portion" and "at least 70 % of the other metal is contained in the shell portion of the grain" is indefinite in the absence of providing the amount of the iridium and the other metal since "90 %", "50 %" or "70 %" is relative term, and

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the amount associated with the percentage cannot be determined in the absence of providing the total amount of iridium, and the metal selected from the group consisting of is iron, copper, rhodium and ruthenium. There is no antecedent basis for “the silver halide” in claim 1, page 3, in the limitation “wherein the silver halide is silver bromide, silver iodobromide or silver iodide”. The “silver halide grains” should be used instead “silver halide”. See also similar language in claim 2., page 5.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Okada et al (US 6,120,983), Yanagisawa et al (US 2002/0028414A1) and EP 1096310A2 (EP'310).

Okada et al discloses a photothermographic material contains silver halide include silver halide core/shell structure having two to 5 layers and halide composition include silver bromide, silver iodobromide and silver iodide, and wherein the photosensitive silver halide grains contains at least one complex metal selected from the group consisting of rhodium, rhenium, ruthenium, osmium, iridium, cobalt and iron. The metal complexes may be used alone or in admixture of two or more complexes of common metal or different metals. The distribution of metal complex in the silver halide grains is not critical. The metal complex may be contained in the silver halide grains in uniform phase or at high concentration in either core or in the shell and the amount

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thereof is from  $1 \times 10^{-9}$  to  $1 \times 10^{-2}$  mole per mole of silver. See column 36, lines 3-35. See also the organic acid silver in columns 37-38 and reducing agent including bisphenols in column 39, lines 21-26; the chemical sensitization using the sulfur, selenium, tellurium and gold sensitizer in column 36, lines 40-67, and the silver halide grains having grain size of less than 0.20 micron in column 35, lines 38-50 (10 nm to 150 nm).

Yanagisawa et al on page 5, [0080] disclose to incorporate the metal ions or complex ions into silver halide grain through addition during the silver halide grain formation and most at the stage of nuclei formation and growth. EP'310 discloses the bisphenols reducing agent on page 3, [0013].

The present claimed invention is related to use the iridium with an amount of 90 % or more of the total amount of iridium in the core portion of the grain correspond to 50 % of the total mole % of silver halide in the grain and at least 50 % of a total amount of the metal selected from the group consisting of iron, copper, rhodium and ruthenium in the shell portion of the grain. Accordingly, the core contains 90 % of iridium and 50 % the metal selected from the group consisting of iron, copper, rhodium and ruthenium, and the shell contains 10 % of iridium and 50 % of metal selected from the group consisting of iron, copper, rhodium and ruthenium. Therefore, the silver core/shell grains claimed in the present invention contains high concentration of the metal in the core and low in the shell within the meaning taught in Okada et al which discloses the a silver halide core/shell grains which contains one or an admixture of two or more metal including the iridium, rhodium, ruthenium, and iron, and the distribution of the metal complex in the silver halide grain is not critical, which is the metal complex may be formed a uniform phase or at high concentration in either in the core or in a shell. Therefore, it

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would have been obvious to the worker of ordinary skill in the art at the time the invention was made to form a silver halide core/shell grains having high concentration of metal in the core including the iridium taught Okada et al with an expectation of success. See also Yanagisawa et al which incorporates the metal complex during the nuclei formation or during grain growth which would have understood in the art it is preferred to use the metal complex within the core of the silver halide grain. The bisphenols compound of formula  $\text{®}$  has been conventionally used as reducing agent for silver ion such as taught in EP'310, and it would have been obvious to the worker the bisphenols compound taught in EP'310 as reducing agent for silver ions of the material taught in Okada et al, and thereby provide a material as claimed.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination Okada et al (US 6,120,983), Yanagisawa et al (US 2002/0028414A1) and EP 1096310A2 (EP'310) as applied to claims 1-9, 11-12 above, and further in view of Farid et al (US Patent No. 5,747,236). Farid et al disclose fragmentable electron donor to increase the sensitivity of silver halide emulsion. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use fragmentable electron donor taught in Farid to increase the sensitivity of the material obtained by the combination of Okada et al (US 6,120,983), Yanagisawa et al (US 2002/0028414A1) and EP 1096310A2 (EP'310), and thereby provide a material as claimed.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-10, 12 rejected under 35 U.S.C. 102(e) as being anticipated by Oka et al (US 2004/00055522A1). The invention a claimed is clearly anticipated by Oka et al (US 2004/00055522A1). See for instance Oka on page 54, claims 11-12 which show the use of a pair of metal Ir-Fe, or Ir-Cu and the bisphenols compounds on pages 17-19.

### ***Double Patenting***

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-10, 12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10, 14-20 are of copending Application No. 10/602,622 in view of EP 1096310A2. EP'310 discloses the reducing agent of formula ® on page 3, [0013]. It would have been obvious to the worker of ordinary skill in the art at the

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time the invention was made to a known bisphenols reducing agent taught in EP'310 as reducing agent the material claimed in the copending application, and thereby provide a material as claimed.

This is a provisional obviousness-type double patenting rejection.

***Response to Arguments***

13. Applicant's arguments filed April 20, 2007 have been fully considered but they are not persuasive. It is the Examiner's position that the claiming of relative percentage of the metal in claims 1 is indefinite in the absence of a base amount of the total iridium amount and the base amount of the iron, copper, rhodium and ruthenium. The % should be based on the amount of the total iridium amount and the amount of the iron, copper, rhodium and ruthenium. An total amount of the iridium and an total amount of the iron, copper, rhodium and ruthenium encompasses an indefinite amount of the iron, copper, rhodium and ruthenium and the amount of iridium, and thereby the percentage of the total amount of iridium and the total amount of iron, copper, rhodium and ruthenium is indefinite. "Relative terms must have some basis for comparison. In re Self 213 USPQ 1, 7 (CCPA 1982); In re Miles 175 USPQ 33 (CCPA 1972)."

***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tcheat  
2007-05-09



Thorl Chea  
Primary Examiner  
Art Unit 1752